

## **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **5    Listing of Claims:**

1. (Currently amended) An apparatus for separating impurities from a stream comprising:

-a rotor cone cap having an inner conical wall ~~portion~~ and an outer portion, said rotor cone cap comprising:

an inlet for the stream;

10        a baffle plate extending about the periphery of said inner conical wall to distribute the stream radially inward;

-a rotor bowl having an inner portion and an outer portion, said rotor bowl being connected to said rotor cone cap, and wherein said rotor bowl comprises:

15        -a plurality of impeller vanes arranged on the inner portion of said rotor bowl, wherein said baffle plate directs the stream to said impeller vanes, and wherein said impeller vanes comprise a plurality of vertically extending members;

-an array of cavities operatively arranged to receive the stream from said plurality of impeller vane vanes;

20        -a membrane, operatively positioned within said array of cavities, for separating the impurities from the stream;

-a permeate outlet for delivering a permeate from the rotor bowl;

-drive means, operatively connected to said rotor bowl, for rotating the rotor bowl so that the stream within said inner conical wall and the stream within said inner portion of said rotor bowl is exposed to a centrifugal force.

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2. (Canceled)

3. (Canceled)

5 4. (Currently amended) The apparatus of claim ~~3~~ 1 wherein said membrane comprises:  
-a spiral wound membrane cartridge adapted to fit within said cavities.

5. (Original) The apparatus of claim 4 wherein said rotor bowl contains a retentate outlet for delivering the retentate from the rotor bowl.

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6. (Original) The apparatus of claim 5 wherein the array of cavities is orientated at a angle between 10 degrees and 60 degrees relative to a horizontal axis of the rotor cone.

7. (Original) The apparatus of claim 6 wherein said retentate outlet contains a back pressure  
15 valve for regulating the pressure within the retentate outlet.

8. (Original) The apparatus of claim 7 wherein said permeate outlet is directed to the outer portion of said rotor bowl so that the permeate is directed radially outward.

20 9. (Original) The apparatus of claim 8 wherein the retentate outlet is directed to an inner chamber located radially inward from said array of cavities so that the retentate is directed radially inward.

10. (Original) The apparatus of claim 9 wherein said spiral wound membrane cartridge  
25 comprises: a thin film composite material.

11. (Currently amended) A filtration apparatus for filtering a stream comprising:

-a rotor member having an inner conical wall ~~portion~~ and an outer portion, said rotor member comprising:

-an inlet for the stream;

-a baffle plate extending about the periphery of said inner conical wall to distribute the stream radially inward;

-a plurality of impeller vanes arranged to receive the stream from said baffle plate, and wherein said plurality of impeller vanes comprise vertically extending members;

-an array of cavities operatively arranged to receive the stream from said impeller said array of cavities being arranged at a angle of between 60 degrees and 10 degrees relative to a horizontal axis of the rotor member;

-means, operatively positioned within said array of cavities, for separating the impurities from the stream;

-a permeate outlet for delivering a permeate from the rotor member;

-drive means, operatively connected to said rotor member, for rotating the rotor member so that the stream within said inner conical wall and the stream received by said vertically extending members are ~~is~~ exposed to a centrifugal force.

12. (Canceled)

13. (Canceled)

14. (Currently amended) The apparatus of claim ~~43~~ 11 wherein said separating means

comprises:

-a spiral wound membrane cartridge adapted to fit within said cavities.

15. (Original) The apparatus of claim 14 wherein said rotor member contains a retentate outlet  
5 for delivering the retentate from the rotor member.

16. (Original) The apparatus of claim 15 wherein said retentate outlet contains a back pressure  
choke for regulating the pressure within said retentate outlet.

10 17. (Original) The apparatus of claim 16 wherein said permeate outlet is directed to the outer  
portion of said rotor bowl so that the permeate is directed radially outward.

18. (Original) The apparatus of claim 17 wherein the retentate outlet is directed to an inner  
chamber located radially inward from said array of cavities so that the retentate is directed  
15 radially inward.

19. (Original) The apparatus of 14 wherein said spiral wound membrane cartridge comprises: a  
cellulose acetate membrane.

20 20. (Original) The apparatus of claim 15 wherein the array of cavities is orientated at a angle  
between 50 degrees and 30 degrees relative to the horizontal axis of the rotor member

21. (Currently amended) A method of separating an affluent comprising:

-providing a rotor apparatus, said rotor apparatus comprising a rotor member having an  
25 inner conical wall ~~portion~~ and an outer portion, said rotor member including an inlet for the

stream; an array of cavities operatively arranged on the outer periphery of the rotor apparatus and adapted to receive the affluent; a membrane, positioned within said array of cavities, for separating the impurities from the affluent; a permeate outlet for delivering a permeate from the rotor apparatus; and, a retentate outlet for delivering a retentate from the rotor apparatus;

5        -flowing the affluent to the inlet of the rotor apparatus;

      -rotating the rotor apparatus;

      -creating a centrifugal force within the inner conical wall ~~portion~~ of the rotor apparatus so that the affluent is forced to the outer periphery of the inner conical wall ~~rotor apparatus~~;

-directing the affluent to a baffle plate extending about the periphery of said inner conical

10    wall to distribute the affluent radially inward;

-channeling the affluent from the baffle plate to a plurality of radially mounted impeller  
vanes;

      -directing the affluent to the array of membranes arranged on the outer periphery of the rotor apparatus;

15        -separating the affluent in the array of membranes into the permeate and the retentate;

      -producing the permeate from the rotor apparatus via the permeate outlet;

      -producing the retentate from the rotor apparatus via the retentate outlet.

22. (Canceled)

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23. (Canceled)

24. (Currently amended) The method of claim 23 21 wherein said permeate outlet is directed to the outer portion of said rotor apparatus and wherein the step of producing the permeate  
25 includes directing the permeate radially outward.

25. (Original) The method of claim 24 wherein the step of producing the retentate from the rotor apparatus includes directing the retentate to an inner chamber located radially inward from said array of membranes so that the retentate is directed radially inward.

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26. (Original) The method of claim 25 wherein the producing the retentate from the rotor apparatus includes controlling the back pressure within the retentate outlet.